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R E M A R K S

Applicant has carefully considered the Office Action of January 19, 2001 rejecting all of the claims. The Applicant wishes to express his appreciation to the Examiner for the indication of allowable subject matter.

The present response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

It is noted with appreciation that the Examiner has removed the finality of the previous Office Action, as per the discussion with the undersigned during the interview of Nov. 21, 2000. However, Applicant had already submitted to former Examiner Ackerman, via the response filed April 28, 1999, remarks to some of the same prior art cited again in the latest Office Action, e.g., Pipes, White, Sandberg. Therefore, it appears that the prosecution of the current application has been unduly burdened by the change in Examiners, which necessitated re-establishment of previously-established positions.

As already stated, the present application is the National Stage of PCT patent application PCT/US96/01209.

It is requested that the requirement for formal drawing corrections be held in abeyance until an indication of allowance has been received.

Claim 1 has been amended to include the recitation of claim 4, which has been deleted. Thus, claims 1-3 and 5-49 remain in the case.

RESPONSE TO EXAMINER'S FORMAL OBJECTIONS / REJECTIONS

The specification has been amended to overcome the Examiner's objection under 37 CFR 1.71 and 35 USC 112, by the addition of the term "hand-movable" at page 8, line 14. This amendment replaces the previously suggested terminology, "hand-holdable" and it is believed that

"hand-movable" is more precise and clearly understood, since it means that the elements may be moved by hand.

The term "hand-movable" is not meant to limit the invention to physical contact with the hand, since as shown in Fig. 16, and described at p. 15, lines 1-13, a vacuum cleaner tool construction may have a motor 194 which is activated by pressing switch 196. Thus, the elements are "hand-movable" by virtue of the motorized movement, under hand control (also Figs. 46-47 and p. 40).

This amendment overcomes the objection under Sec. 112 and is designed particularly point out the subject matter which Applicant regards as the invention.

The Examiner's has objected to claims 1-49 under Sec. 112, regarding Applicant's possession of the invention at the time of filing. As will be clear from a careful reading of the specification, Applicant was in possession of the subject matter of the claimed invention at the time of filing the application, especially in relation to the hand-movable aspect.

For example, at page 8, line 16 it is stated that "the roller and pipe are operated by holding the fixed handle 114 in one hand, and operating the activation handle 116.....with the other hand." The specification has also been amended at page 8, line 19, to indicate that the hand motion is in reference to the other hand.

The illustration of this activity is clear from Figs. 5 and 6 where a man is shown operating the segments of telescopic tool 100, and this shows that the device is hand-movable, one hand moving in reference to the other.

Additional illustrations of this activity include Fig. 26 where a shoulder-belt mounted pipe is arranged for fruit picking, and as stated at page 21 line 18 "it is possible to use one hand that will move the activating handle..." Similarly, regarding the sail boat mast at page 51 line 18, it is stated, "a lifting arm 918 is connected to the top of the second segment 906 for the user to reach it by handle 920", so that it is clear that the

sailboat mast segment is operable by hand motion, therefore, it is hand-movable.

Furthermore, the recitation of "hand-motion" in claim 4 clearly means "hand-movable", and this has now been incorporated in claim 1, and claim 4 deleted.

Therefore, there can be no question as to whether the telescopic tool is hand-movable, and this new terminology should be acceptable and should not be considered new matter, since it is clearly based on the initial specification, claims and drawings.

As stated in the previously filed Remarks, the object of the present invention is to overcome the problems of existing products exhibiting telescopic movement. The invention provides a system of telescopic elements for multiplying the effective physical work achieved by the telescopic motion of various structures, with many applications including cleaning systems, vacuum cleaners, measuring rods, tools, paint rollers, wall scrapers, music stands and instruments, parasols, shades, curtains, sailing boat masts, and structures such as chairs, tripods, tables, tents, etc.

By way of a quick review, the previous amendments to claim 1 have already incorporated the following features:

- 1) simultaneous driving and driven motion of linking means and first and second elements;
- 2) driving motion of the linking means is controllably reversible;
- 3) driven motion of said first and second elements is non-gravity dependent;
- 4) both extension and retraction motion of the elements are under full, reversible and multipliable control of the mechanism;
- 5) motion of the elements is in-line with their orientation, achieving linear-to-linear driven motion; and
- 6) the elements are connectable to a tool or other object.

As now amended, independent claim 1 incorporates another feature previously recited in claim 4. This feature defines the relationship between the directions of driving and driven motion, such that when driving motion is applied between an end of a selected reference one of the first and second elements, and the linking means (loop), there results one of two types of extension and retraction motion, with driven motion developed either in the same, or reverse direction.

As mentioned in the previously filed Remarks, examples of this motion are described in the text, with reference to Figs. 1-6.

The advantage of this operation is described in the text at page 8, last paragraph, through page 9, line 12, with reference to Figs. 1-6. In one case, in a two-element construction of Fig. 1, where the operating hand moves the handle 116 opposite the motion of segment 106, the user reaches greater distances, "which is good for working at heights..."

In another case, where the operating hand moves handle 126 in the same direction as the segment 104, this arrangement is "effective for working in lower places". Thus, it can be seen that the inventive tool solves a particular problem at high and low locations, and it is solved by this unique motion.

The Examiner is respectfully requested to carefully review the pair of Figs. 2-3 (showing oppositely-directed hand motion) and Figs. 5-6 (showing same direction hand motion), each of which shows operation of the system from a different end in a three-element construction.

Thus, as per amended claim 1, the ability to select the direction of the driven motion, via application of driving motion with respect to an end of a selected reference one of the segments during extension or retraction, gives the present invention unique advantages over the prior art.

The importance of this feature is that it defines the directions of the driving motion and the driven motion, depending on which of the first or second element is selected as the reference end with respect to which the driving motion is applied to the linking means.

If the driving motion is applied to the linking means with respect to the first element, it is clear that the first element is held fixed in place. Alternatively, if the driving motion is applied with respect to the second element, it is clear that the second element is held fixed in place. This choice is then the basis for the direction of the resulting driven motion, and it serves to highlight the versatility of the inventive device, as it can be operated from either end of the first and second elements.

Thus, in the case of two nested elements, the end of the narrow, inner element or the larger, outer element can be held, and the device operated such that the other element is provided with driven motion. The tool or other object then benefits from the motion imparted to the element provided with driven motion, in the direction selected.

RESPONSE TO EXAMINER'S PRIOR ART REJECTIONS

The Examiner has rejected claims 1-3, 5, 8, 16-18, 36, 38 41-42, 45 and 47 under Sec. 103(a) as being unpatentable over Pipes in view of Wilding.

Pipes discloses a shuttle assembly of elements placed alongside one another with chains (66) mounted on sprocket wheels (48, 49, etc.). Pipes does not lend itself to driving motion provided by hand, and as the Examiner concedes, Pipes does not disclose controllably reversible motion.

Wilding discloses an automatic storage system, not a telescopic system, having conveyor apparatus for handling particulate products such as peanuts or cereal. An electronic controller 25 is applied to control the conveyor movements using electronic sensors such as a

photocell, see col. 5, lines 29-32, and col. 6, lines 53-57.

The application of an electronic controller to automated control systems as in Wilding can hardly be compared with the simple, controllably reversible motion provided by the system of the present invention. This is because as now recited in amended claim 1, the inventive system is hand-movable, meaning it can be moved by hand, while heavy, automated systems are typically not designed for manual operation. Therefore, an automated system such as Wilding does not provide a relevant teaching in this case and is not a basis for comparison, being electronic.

It would therefore be unreasonable to consider the combination of Pipes and Wilding as rendering the claims obvious, since a skilled person would not be prompted to combine them nor consider this combination to be obvious.

The Examiner has rejected claims 1-3, 5, 8-12, 16-19, 23 and 40 under Sec. 103(a) as being unpatentable over White in view of Wilding.

White discloses a collapsible structure which employs an arrangement of sprocket wheels and chains to allow telescopic movement of a sectioned structure. As can be seen by a careful reading of White, the telescopic elements (20, 23, 24 and 25) are on the upper portion of the structure, while the mechanism providing movement, including the chain 43, is below and separate from this. This is unlike the invention, where the linking means is "arranged on the said (first and second) elements".

In addition, the requirement in White for wheels carrying the chains is not a requirement of the present invention. For example, Figs. 7-9 of the specification of the present invention show a linking means without chains comprising a single, double-toothed sprocket wheel, which converts the driving motion to a driven motion. Even 78 years after White was published, the practical applications do not exist and are also very different from those of the present invention.

The Examiner concedes that White does not disclose the use of a controller. Wilding, as stated above, is not applicable here for controlling the movement, since Wilding teaches an electronic controller for automated control systems, rather than the simple, controllably reversible motion provided by the system of the present invention. An automated system such as Wilding does not provide a relevant teaching in this case and is not a basis for comparison, since it is an electronic device.

It would therefore be unreasonable to consider the combination of White and Wilding as rendering the claims obvious, since a skilled person would not be prompted to combine them nor consider this combination to be obvious.

The Sandberg reference, for its teaching of a hand crank, is not a basis for rejection since it adds nothing to the overall system of telescopic motion as presented by the invention. Sandberg teaches a fire escape within which only the extension motion which raises the ladder is controlled, while the retraction motion is not controlled and is provided by gravity. A hand crank in a gravity-dependent system does not teach controllably reversible motion, nor does it teach how this could be achieved in combination with other components. Applicant respectfully requests that the Examiner carefully reconsider the scope of the invention, as now claimed, with respect to the limited teaching of Sandberg.

In summary, the present invention provides a tool attached to a telescopic system not requiring a support base, with the system enabling, from either end of the system, hand-movable, controllably reversible driving motion in-line with the orientation of the elements, and controllably reversible, non-gravity dependent, linear-to-linear driven motion. Such a system is deemed not to have been obvious since the teachings of Pipes, White, Wilding and Sandberg do not disclose this, or even suggest such a combination, nor do they disclose an attached tool or object for performing useful work.

The motion of the linking means in the invention is adjustably multipliable, with the linking means adjustably arranged on the elements, as can be seen in Figs. 10-15b, 22, 24, and 30, etc.

As mentioned previously, the ability to reverse the driving and driven motions gives the present invention the advantage of having a design which solves the problems of reaching both high and low areas. Since these particular problems were not solved by the prior art, the invention cannot be deemed to be obvious.

EXAMINER'S STATEMENT IN RESPONSE TO APPLICANT'S ARGUMENTS

Applicant acknowledges the Examiner's removal of the Steidle reference, as being inappropriate.

The Examiner states that the Applicant insists on arguing for claims of a scope that is not patentable. However, it is respectfully maintained by the Applicant that the patentability of the pending claims is a matter to be decided by the Patent Office, and ultimately, the courts, but clearly, the intent is to achieve the broadest claims possible, as allowed by law.

Since the concept of the invention has many and varied applications, some of which may be developed in the future, Applicant wishes to have the broadest claim possible to allow for claim coverage wherever applicable.

As stated previously, the Examiner's concedes that Pipes does not disclose controllably reversible motion, but it is contended that it is possible to modify Pipes to include a controller. As stated above, Applicant maintains that this combination is not realistic as Wilding is designed for automated control systems.

The issue of whether Pipes is nested becomes secondary since it cannot be a basis for rejection for other reasons, which are contained in the limitations of claim 1 as outlined above, and re-iterated here: Pipes does not disclose a system enabling, from either end of the system, hand-movable, controllably reversible driving

motion in-line with the orientation of the elements, and controllably reversible, non-gravity dependent, linear-to-linear driven motion, with the ability to connect tools or other objects on any element (e.g. 600, Figs. 46-47). The tools or objects which are connectable to any element insure different practical applications from Pipes, which is limited to load handling on only one element, as is seen in Fig. 5 of Pipes, element 20.

The Examiner's statement regarding the issue of nesting in White is secondary, because, as stated previously, the linking means of the invention is "arranged on" the elements, while White has them separated, (chain 43 and elements 20, 23, 24 and 25) as per Fig. 1 of White.

Again, the provision by the present invention of reversible directions of driving and driven motions, based on selection of a reference element for driving motion, is deemed not to have been obvious, since the prior art does not disclose this, nor does it disclose a device like that of the present invention.

In citing the prior art references under Sec. 103(a), the question is raised whether the references themselves would suggest the invention, as stated in the decision of In Re Lintner (172 USPQ 560, 562, CCPA 1972):

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination or other modification."

Similarly, In Re Regel (188 USPQ 136 CCPA 1975) decided that the question raised under Sec. 103 is whether the prior art taken as a whole would suggest the claimed invention to one of ordinary skill in the art. Accordingly, even if all the elements of a claim are disclosed in various prior art references, the claimed

invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the references to arrive at the claimed invention.

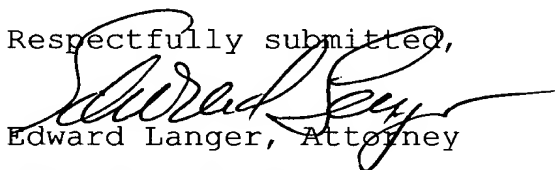
Simply put, and as stated in *In re Clinton* (188 USPQ 365 CCPA 1976), "do the references themselves ... suggest doing what appellants have done", such that there is a requirement that the prior art must have made any proposed modification or changes in the prior art obvious to do, rather than obvious to try.

It is respectfully put forward by Applicant that there is not any substantial reason to view the cited references as making the invention obvious, since none of them, individually or in combination, suggests reversible directions of driving and driven motions, as provided by the invention. To say that this feature is obvious to try, or a design choice, as the Examiner seems to do, is one thing, but to recognize the above-outlined design advantages is another thing.

Therefore, independent claim 1 is deemed to be patentable over the prior art, and the dependent claims are likewise deemed patentable being based thereon.

In view of the foregoing amendments and remarks, all of the claims remaining in the application are deemed to be allowable. Further reconsideration and allowance of the application is respectfully requested at an early date.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

On page 8 line 11, the paragraph has been amended as follows:

Referring to Fig. 1, there is shown a preferred embodiment of a tool 100 which can be operated from either side. In Fig. 1 there is seen a pipe 102 with two hand-movable segments 104, 106 (or more) on which there can be assembled different tools at either end as needed. In the figure, a roller 101 for painting is assembled on the top end 110. The roller and pipe are operated by holding the fixed handle 114 in one hand, and operating the activation handle 116 (that moves on and along segment 104) with the other hand, in reference to the fixed handle 114. This moves segment 106 up and down through motion of straps 118 which are attached at either end to handle 116 at points 119 with the loop sliding through holes 120 formed in segment 104, and being attached to end 122 of segment 106, such that roller 101 turns and moves up and down, to perform the paint job.

In the claims:

Claim 1 has been amended as follows:

1. (Thrice amended) A motion transmission and multiplication system comprising:

at least first and second [hand-holdable] hand-movable elements each having anterior and posterior ends, said elements extending in the same orientation, each element having at least one point thereon connectable to a tool or other object; and

at least a first means linking said first and second elements and being movable with respect to at least one of them, said first linking means also being connectable to an additional element;

said first linking means being arranged on said elements such that when said first linking means is [provided] moved with a controllably reversible driving motion with respect to either of said anterior and posterior ends of a selected reference one of either of said first and second elements, wherein said driving motion is in a direction [in line] in-line with said orientation,

then said first and second elements, and if connected, said additional element are simultaneously provided with a controllably reversible and multipliable, non-gravity dependent, linear-to-linear driven motion with respect to each other [in line] in-line with said orientation,

said driven motion being in the same direction as said driving motion, or reverse thereto, in accordance with which reference one of said first and second elements was selected in respect of said driving motion.